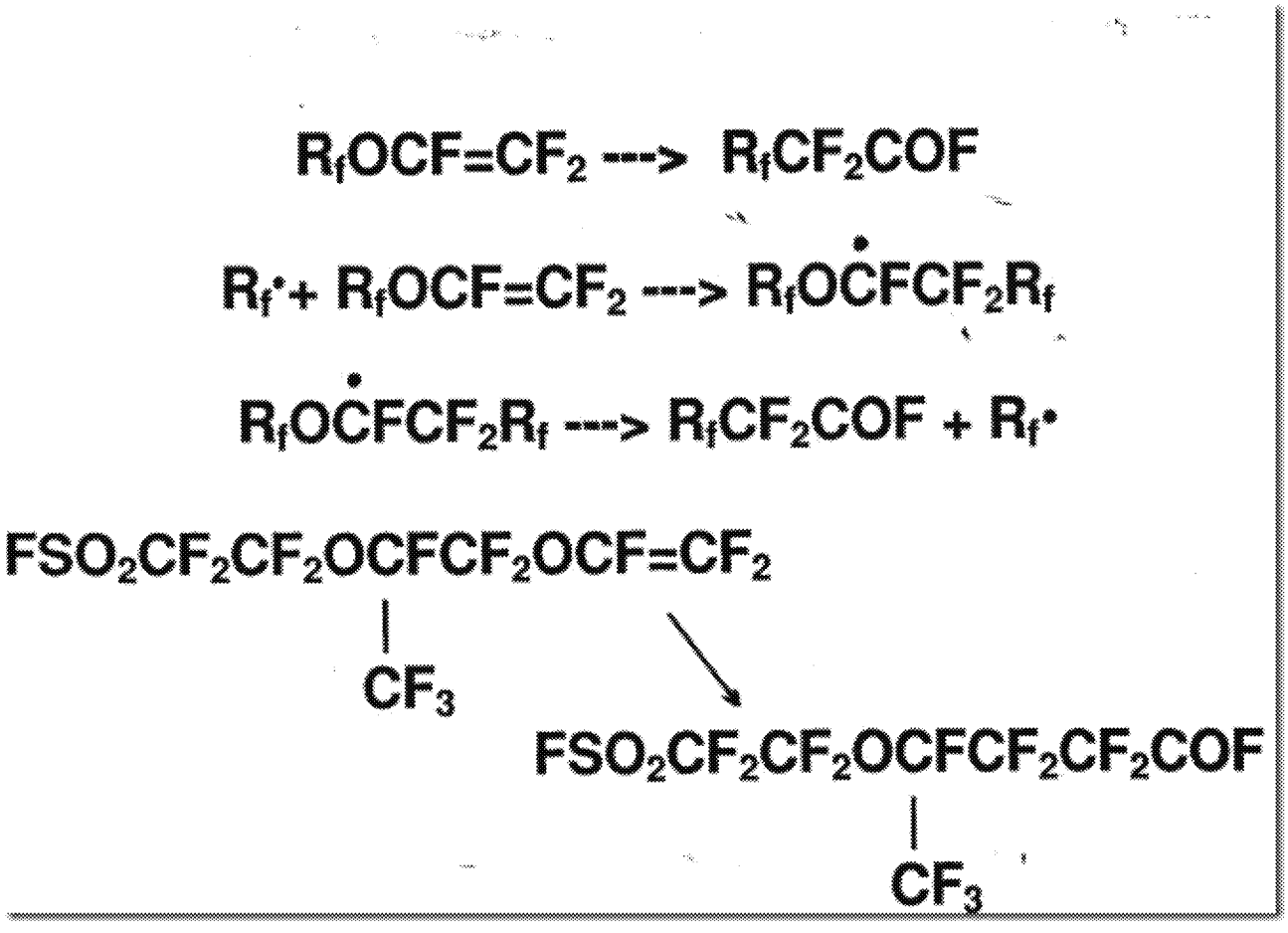
Message

From: Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]
Sent: 5/30/2018 5:04:10 PM
To: Lindstrom, Andrew [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=04bf7cf26aa44ce29763fbc1c1b2338e-Lindstrom, Andrew]; McCord, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=McCord, James]
Subject: FW: Mechanism of Rearrangement

Some more FYI.

Mark

From: Paul [mailto: Ex. 6 Personal Privacy (PP)
Sent: Wednesday, May 30, 2018 10:42 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Mechanism of Rearrangement



Here is an old slide showing the radical rearrangement of vinyl ethers. Line 1 is the general reaction of vinyl ethers.

1. R_f is a fluorocarbon chain. For PPVE it is $CF_3CF_2CF_2$ The example in lines 4&5 shows the Nafion monomer rearranging to an isomeric acid fluoride.

2. As you can see from the second and third lines this is a chain reaction with $CF_3CF_2CF_2$ radical as the chain carrier. This leads to the "rearrangement" of $CF_3CF_2CF_2OCF=CF_2$ to $CF_3CF_2CF_2CF_2COF$.

3. There are a number of other reactions of fluorinated ethers in which a free radical generated next to the ether oxygen results in a similar "beta" oxygen cleavage. No need to go into them now.